

WHAT IS CLAIMED IS:

1. A recycling method of collecting used products or machines from the market, processing the collected machines to produce recycled machines as new products, and providing  
5 the recycled machines to the market, the recycling method comprising:

a classification step of classifying the collected machines on the basis of classifier unit information including definitions on classifications and specific  
10 classifier units for classifying the collected machines in accordance with recycling process levels;

a fractionation step of decomposing and fractionating the classified machines on the basis of fractionator unit information including definitions on  
15 decomposer/fractionator units for further decomposing and fractionating specific machines of the collected machines classified in the classification step and on fractionated basic matters including decomposed and fractionated basic units, components and materials;

20 a physical action step of applying a physical action to the fractionated basic matters on the basis of physical action information including definitions on a physical actor unit for applying a physical action to a specific basic matter selected from the fractionated basic matters and on a  
25 physically acted basic matter after application of the

physical action;

a recycled material production step of producing a recycled material on the basis of recycled material producer unit information including definitions on recycled material producer units for producing recycled materials from the physically acted basic matter and on standard values of recycled materials;

a recycled component production step of producing a recycled component from the recycled materials on the basis of recycled component producer unit information including definitions on recycled component producer units for producing recycled components from the recycled materials and on standard values of recycled components; and

a recycle unit definition step of creating the classifier unit information, the fractionator unit information, the physical action information, the recycled material producer unit information and the recycled component producer unit information, and transferring each of the information to the classification step, the fractionation step, the physical action step, the recycled material production step and the recycled component production step, respectively.

2. The recycling method according to claim 1, wherein the physical action includes fragmentation of the fractionated basic matter, the physically acted basic matter including a collected material fragmented into pieces after  
5 the fragmentation.

3. The recycling method according to claim 2, wherein the fractionated basic matter includes a plastic material contained in the collected machine, the fractionator unit  
10 information including information on technical units for decomposing and fractionating a plastic material from the collected machine, the recycled material including a recycled plastic material produced from the collected material consisting of the plastic material, the recycled  
15 material producer unit information including information on technical units for producing the recycled plastic material, the recycled component including a molding produced from the recycled plastic material, the recycled component producer unit information including a molding  
20 condition applied to the molding.

4. The recycling method according to claim 3, wherein the fractionator unit information includes information on a unit for determining whether the plastic material is  
25 contained in the collected machine.

5. The recycling method according to claim 3, wherein the physical action includes a unit in relation to magnetic metal separation.
- 5 6. The recycling method according to claim 3, wherein the recycled material includes plastics composed of the collected material and a virgin material compounded therein at a certain ratio.
- 10 7. The recycling method according to claim 3, wherein the fractionated basic matter includes a plastic material sectioned by names of material and grade, the fractionator unit information including information on technical units for fractionating the plastic material by material and by  
15 grade.
8. The recycling method according to claim 7, wherein the plastic material is additionally provided with a material grade transfer unit for transferring the names of material  
20 and grade, the material grade transfer unit having the same material quality as the plastic material and grade.
9. The recycling method according to claim 8, wherein the recycled plastic component or the recycled component  
25 is also additionally provided with a material grade name

transfer unit.

10. The recycling method according to claim 8, wherein  
the material grade transfer unit includes a material name  
5 indication described on the plastic component.

11. The recycling method according to claim 10, wherein  
the recycled plastic component or the recycled component  
is also additionally provided with a material grade name  
10 transfer unit.

12. The recycling method according to claim 1, wherein  
the classifier unit information, the fractionator unit  
information, the physical action information, the recycled  
15 material producer unit information and the recycled  
component producer unit information are transferred using  
a communication unit.

13. The recycling method according to claim 12, wherein  
20 the communication unit includes a communication unit via  
the Internet.

14. The recycling method according to claim 12, wherein  
the classifier unit information, the fractionator unit  
25 information, the physical action information, the recycled

material producer unit information and the recycled component producer unit information are stored at the recycle unit definition step in a certain data storage unit, from which each corresponding information is supplied to the  
5 recycle unit definition step, the classification step, the fractionation step, the physical action step, the recycled material production step and the recycled component production step.

10 15. The recycling method according to claim 14, wherein the classifier unit information, the fractionator unit information, the physical action information, the recycled material producer unit information and the recycled component producer unit information are each stored in a  
15 certain data storage unit at each of the classification step, the fractionation step, the physical action step, the recycled material production step and the recycled component production step.

20 16. The recycling method according to claim 1, wherein environmental load information or information on an environmental load caused from each step is determined at each of the classification step, the fractionation step, the physical action step, the recycled material production  
25 step and the recycled component production step, and

transferred to the recycle unit definition step.

17. The recycling method according to claim 16, wherein the environmental load information is transferred using a communication unit.

18. The recycling method according to claim 16, wherein the environmental load information includes each amount of CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, BOD and a type and amount of final disposition.

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19. The recycling method according to claim 18, wherein the environmental load information is transferred using a communication unit.

20. The recycling method according to claim 1, wherein quality information or information on quality of a matter carried out from each step is determined at each of the classification step, the fractionation step, the physical action step, the recycled material production step and the recycled component production step, and transferred to the recycle unit definition step.

21. The recycling method according to claim 20, wherein the quality information is transferred using a communication unit.

22. The recycling method according to claim 1, further comprising, in the recycled machine production step, producing from the recycled components a recycled machine to be provided to the market on the basis of recycled machine  
5 producer unit information including definitions on units for producing recycled machines from the recycled components, wherein the recycled machine producer unit information is created at the recycle unit definition step and transferred to the recycled machine production step.

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